

=> d his ful

(FILE 'HOME' ENTERED AT 13:51:00 ON 08 OCT 2009)

FILE 'REGISTRY' ENTERED AT 13:51:26 ON 08 OCT 2009

L1 57 SEA SPE=ON ABB=ON PLU=ON NI (L) CU (L) CR (L) PT/ELS
L2 2 SEA SPE=ON ABB=ON PLU=ON L1 (L) 4/ELC.SUB

FILE 'HCAPLUS' ENTERED AT 13:52:33 ON 08 OCT 2009

L3 1 SEA SPE=ON ABB=ON PLU=ON L2
D SCA
D L3 TI AU
L4 44 SEA SPE=ON ABB=ON PLU=ON L1

L5 QUE SPE=ON ABB=ON PLU=ON FUEL#(W)CELL#
L6 QUE SPE=ON ABB=ON PLU=ON CAT# OR ?CATAL?

FILE 'HCAPLUS' ENTERED AT 13:55:59 ON 08 OCT 2009

L7 1 SEA SPE=ON ABB=ON PLU=ON L6 AND L4
L8 1 SEA SPE=ON ABB=ON PLU=ON L5 AND L4
L9 1 SEA SPE=ON ABB=ON PLU=ON L7 OR L8
D L9 TI AU

FILE 'ZCAPLUS' ENTERED AT 13:58:22 ON 08 OCT 2009

L10 QUE SPE=ON ABB=ON PLU=ON NI#(W)PT#(W)CR# OR NI#(W)CR#(
W)PT# OR CR#(W)NI#(W)PT# OR CR#(W)PT#(W)NI# OR PT#(W)NI#(
W)CR# OR PT#(W)CR#(W)NI#

FILE 'JAPIO, PASCAL, ENERGY, TULSA, COMPENDEX, INSPEC, WPIX,
HCAPLUS' ENTERED AT 14:01:50 ON 08 OCT 2009

L11 31 SEA SPE=ON ABB=ON PLU=ON NI#(W)PT#(W)CR# OR NI#(W)CR#(
W)PT# OR CR#(W)NI#(W)PT# OR CR#(W)PT#(W)NI# OR PT#(W)NI#(
W)CR# OR PT#(W)CR#(W)NI#
L12 14 SEA SPE=ON ABB=ON PLU=ON NI#(W)PT#(W)CR# OR NI#(W)CR#(
W)PT# OR CR#(W)NI#(W)PT# OR CR#(W)PT#(W)NI# OR PT#(W)NI#(
W)CR# OR PT#(W)CR#(W)NI#
L13 10 SEA SPE=ON ABB=ON PLU=ON NI#(W)PT#(W)CR# OR NI#(W)CR#(
W)PT# OR CR#(W)NI#(W)PT# OR CR#(W)PT#(W)NI# OR PT#(W)NI#(
W)CR# OR PT#(W)CR#(W)NI#
L14 0 SEA SPE=ON ABB=ON PLU=ON NI#(W)PT#(W)CR# OR NI#(W)CR#(
W)PT# OR CR#(W)NI#(W)PT# OR CR#(W)PT#(W)NI# OR PT#(W)NI#(
W)CR# OR PT#(W)CR#(W)NI#
L15 20 SEA SPE=ON ABB=ON PLU=ON NI#(W)PT#(W)CR# OR NI#(W)CR#(
W)PT# OR CR#(W)NI#(W)PT# OR CR#(W)PT#(W)NI# OR PT#(W)NI#(
W)CR# OR PT#(W)CR#(W)NI#

W)CR# OR PT#(W)CR#(W)NI#

L16 48 SEA SPE=ON ABB=ON PLU=ON NI#(W)PT#(W)CR# OR NI#(W)CR#(W)PT# OR CR#(W)NI#(W)PT# OR CR#(W)PT#(W)NI# OR PT#(W)NI#(W)CR# OR PT#(W)CR#(W)NI#

L17 114 SEA SPE=ON ABB=ON PLU=ON NI#/BI,ABEX(W)PT#/BI,ABEX(W)CR#/BI,ABEX OR NI#/BI,ABEX(W)CR#/BI,ABEX(W)PT#/BI,ABEX OR CR#/BI,ABEX(W)NI#/BI,ABEX(W)PT#/BI,ABEX OR CR#/BI,ABEX(W)PT#/BI,ABEX(W)NI#/BI,ABEX OR PT#/BI,ABEX(W)NI#/BI,ABEX(W)CR#/BI,ABEX OR PT#/BI,ABEX(W)CR#/BI,ABEX(W)NI#/BI,ABEX

L18 176 SEA SPE=ON ABB=ON PLU=ON NI#(W)PT#(W)CR# OR NI#(W)CR#(W)PT# OR CR#(W)NI#(W)PT# OR CR#(W)PT#(W)NI# OR PT#(W)NI#(W)CR# OR PT#(W)CR#(W)NI#

TOTAL FOR ALL FILES

L19 413 SEA SPE=ON ABB=ON PLU=ON L10
D L19 KWIC

L20 5 SEA SPE=ON ABB=ON PLU=ON L11 AND L6

L21 3 SEA SPE=ON ABB=ON PLU=ON L12 AND L6

L22 3 SEA SPE=ON ABB=ON PLU=ON L13 AND L6

L23 0 SEA SPE=ON ABB=ON PLU=ON L14 AND L6

L24 5 SEA SPE=ON ABB=ON PLU=ON L15 AND L6

L25 5 SEA SPE=ON ABB=ON PLU=ON L16 AND L6

L26 16 SEA SPE=ON ABB=ON PLU=ON L17 AND L6

L27 38 SEA SPE=ON ABB=ON PLU=ON L18 AND L6

TOTAL FOR ALL FILES

L28 75 SEA SPE=ON ABB=ON PLU=ON L19 AND L6
D L27 9-12 KWIC

L29 0 SEA SPE=ON ABB=ON PLU=ON L20 AND L5

L30 3 SEA SPE=ON ABB=ON PLU=ON L21 AND L5

L31 2 SEA SPE=ON ABB=ON PLU=ON L22 AND L5

L32 0 SEA SPE=ON ABB=ON PLU=ON L23 AND L5

L33 3 SEA SPE=ON ABB=ON PLU=ON L24 AND L5

L34 2 SEA SPE=ON ABB=ON PLU=ON L25 AND L5

L35 0 SEA SPE=ON ABB=ON PLU=ON L26 AND L5

L36 4 SEA SPE=ON ABB=ON PLU=ON L27 AND L5

TOTAL FOR ALL FILES

L37 14 SEA SPE=ON ABB=ON PLU=ON L28 AND L5

FILE 'ZCAPLUS' ENTERED AT 14:08:22 ON 08 OCT 2009

L38 QUE SPE=ON ABB=ON PLU=ON PLATINUM#(W)NICKEL#(W)CHROM?
OR PLATINUM#(W)CHROM?(W)NICKEL# OR NICKEL#(W)CHROM?(W)PLATINUM# OR NICKEL#(W)PLATINUM#(W)CHROM? OR CHROM?(W)NICKEL#(W)PLATINUM# OR CHROM?(W)PLATINUM#(W)NICKEL#

FILE 'JAPIO, PASCAL, ENERGY, TULSA, COMPENDEX, INSPEC, WPIX, HCAPLUS' ENTERED AT 14:38:33 ON 08 OCT 2009

L39 13 SEA SPE=ON ABB=ON PLU=ON PLATINUM#(W)NICKEL#(W)CHROM?

OR PLATINUM#(W)CHROM?(W)NICKEL# OR NICKEL#(W)CHROM?(W)PLA
TINUM# OR NICKEL#(W)PLATINUM#(W)CHROM? OR CHROM?(W)NICKE
L?(W)PLATINUM# OR CHROM?(W)PLATINUM#(W)NICKEL#

L40 1 SEA SPE=ON ABB=ON PLU=ON PLATINUM#(W)NICKEL#(W)CHROM?
OR PLATINUM#(W)CHROM?(W)NICKEL# OR NICKEL#(W)CHROM?(W)PLA
TINUM# OR NICKEL#(W)PLATINUM#(W)CHROM? OR CHROM?(W)NICKE
L?(W)PLATINUM# OR CHROM?(W)PLATINUM#(W)NICKEL#

L41 3 SEA SPE=ON ABB=ON PLU=ON PLATINUM#(W)NICKEL#(W)CHROM?
OR PLATINUM#(W)CHROM?(W)NICKEL# OR NICKEL#(W)CHROM?(W)PLA
TINUM# OR NICKEL#(W)PLATINUM#(W)CHROM? OR CHROM?(W)NICKE
L?(W)PLATINUM# OR CHROM?(W)PLATINUM#(W)NICKEL#

L42 0 SEA SPE=ON ABB=ON PLU=ON PLATINUM#(W)NICKEL#(W)CHROM?
OR PLATINUM#(W)CHROM?(W)NICKEL# OR NICKEL#(W)CHROM?(W)PLA
TINUM# OR NICKEL#(W)PLATINUM#(W)CHROM? OR CHROM?(W)NICKE
L?(W)PLATINUM# OR CHROM?(W)PLATINUM#(W)NICKEL#

L43 3 SEA SPE=ON ABB=ON PLU=ON PLATINUM#(W)NICKEL#(W)CHROM?
OR PLATINUM#(W)CHROM?(W)NICKEL# OR NICKEL#(W)CHROM?(W)PLA
TINUM# OR NICKEL#(W)PLATINUM#(W)CHROM? OR CHROM?(W)NICKE
L?(W)PLATINUM# OR CHROM?(W)PLATINUM#(W)NICKEL#

L44 3 SEA SPE=ON ABB=ON PLU=ON PLATINUM#(W)NICKEL#(W)CHROM?
OR PLATINUM#(W)CHROM?(W)NICKEL# OR NICKEL#(W)CHROM?(W)PLA
TINUM# OR NICKEL#(W)PLATINUM#(W)CHROM? OR CHROM?(W)NICKE
L?(W)PLATINUM# OR CHROM?(W)PLATINUM#(W)NICKEL#

L45 196 SEA SPE=ON ABB=ON PLU=ON PLATINUM#/BI,ABEX(W)NICKEL#/B
I,ABEX(W)CHROM?/BI,ABEX OR PLATINUM#/BI,ABEX(W)CHROM?/BI,ABE
X(W)PLATINUM#/BI,ABEX OR NICKEL#/BI,ABEX(W)PLATINUM#/BI,ABE
X(W)CHROM?/BI,ABEX OR CHROM?/BI,ABEX(W)NICKEL?/BI,ABEX
(W)PLATINUM#/BI,ABEX OR CHROM?/BI,ABEX(W)PLATINUM#/BI,ABE
X(W)NICKEL#/BI,ABEX

L46 37 SEA SPE=ON ABB=ON PLU=ON PLATINUM#(W)NICKEL#(W)CHROM?
OR PLATINUM#(W)CHROM?(W)NICKEL# OR NICKEL#(W)CHROM?(W)PLA
TINUM# OR NICKEL#(W)PLATINUM#(W)CHROM? OR CHROM?(W)NICKE
L?(W)PLATINUM# OR CHROM?(W)PLATINUM#(W)NICKEL#

TOTAL FOR ALL FILES

L47 256 SEA SPE=ON ABB=ON PLU=ON L38

L48 1 SEA SPE=ON ABB=ON PLU=ON L39 AND L6

L49 0 SEA SPE=ON ABB=ON PLU=ON L40 AND L6

L50 1 SEA SPE=ON ABB=ON PLU=ON L41 AND L6

L51 0 SEA SPE=ON ABB=ON PLU=ON L42 AND L6

L52 0 SEA SPE=ON ABB=ON PLU=ON L43 AND L6

L53 0 SEA SPE=ON ABB=ON PLU=ON L44 AND L6

L54 19 SEA SPE=ON ABB=ON PLU=ON L45 AND L6

L55 12 SEA SPE=ON ABB=ON PLU=ON L46 AND L6

TOTAL FOR ALL FILES

L56 33 SEA SPE=ON ABB=ON PLU=ON L47 AND L6
D L55 1-2 KWIC

10/559,637

L57 0 SEA SPE=ON ABB=ON PLU=ON L48 AND L5
L58 0 SEA SPE=ON ABB=ON PLU=ON L49 AND L5
L59 1 SEA SPE=ON ABB=ON PLU=ON L50 AND L5
L60 0 SEA SPE=ON ABB=ON PLU=ON L51 AND L5
L61 0 SEA SPE=ON ABB=ON PLU=ON L52 AND L5
L62 0 SEA SPE=ON ABB=ON PLU=ON L53 AND L5
L63 2 SEA SPE=ON ABB=ON PLU=ON L54 AND L5
L64 2 SEA SPE=ON ABB=ON PLU=ON L55 AND L5

TOTAL FOR ALL FILES

L65 5 SEA SPE=ON ABB=ON PLU=ON L56 AND L5
L66 0 SEA SPE=ON ABB=ON PLU=ON L29 OR L57
L67 3 SEA SPE=ON ABB=ON PLU=ON L30 OR L58
L68 3 SEA SPE=ON ABB=ON PLU=ON L31 OR L59
L69 0 SEA SPE=ON ABB=ON PLU=ON L32 OR L60
L70 3 SEA SPE=ON ABB=ON PLU=ON L33 OR L61
L71 2 SEA SPE=ON ABB=ON PLU=ON L34 OR L62
L72 2 SEA SPE=ON ABB=ON PLU=ON L35 OR L63
L73 4 SEA SPE=ON ABB=ON PLU=ON L36 OR L64

TOTAL FOR ALL FILES

L74 17 SEA SPE=ON ABB=ON PLU=ON L37 OR L65
 D SAV

L75 9 DUP REMOV L74 (8 DUPLICATES REMOVED)
 ANSWERS '1-3' FROM FILE PASCAL
 ANSWER '4' FROM FILE ENERGY
 ANSWER '5' FROM FILE COMPENDEX
 ANSWER '6' FROM FILE INSPEC
 ANSWERS '7-8' FROM FILE WPIX
 ANSWER '9' FROM FILE HCAPLUS

FILE 'REGISTRY' ENTERED AT 14:42:35 ON 08 OCT 2009

SAV L1 HAINICUCRPT/A

L76 12 SEA SPE=ON ABB=ON PLU=ON L1 (L) 4-7/ELC.SUB

FILE 'HCAPLUS' ENTERED AT 14:43:29 ON 08 OCT 2009

L77 6 SEA SPE=ON ABB=ON PLU=ON L76
 D L77 1-6 TI AU

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 6 OCT 2009 HIGHEST RN 1187511-69-8

DICTIONARY FILE UPDATES: 6 OCT 2009 HIGHEST RN 1187511-69-8

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TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

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<http://www.cas.org/support/stngen/stndoc/properties.html>

FILE HCAPLUS

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FILE COVERS 1907 - 8 Oct 2009 VOL 151 ISS 15

FILE LAST UPDATED: 7 Oct 2009 (20091007/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

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FILE COVERS 1907 - 8 Oct 2009 VOL 151 ISS 15
FILE LAST UPDATED: 7 Oct 2009 (20091007/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

ZCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2009.

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FILE JAPIO
FILE LAST UPDATED: 30 SEP 2009 <20090930/UP>
MOST RECENT PUBLICATION DATE: 25 JUN 2009 <20090625/PD>
>>> GRAPHIC IMAGES AVAILABLE <<<

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION (SLART) IS AVAILABLE
IN THE BASIC INDEX (/BI) FIELD <<<

FILE PASCAL
FILE LAST UPDATED: 5 OCT 2009 <20091005/UP>
FILE COVERS 1977 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE
IN THE BASIC INDEX (/BI) FIELD <<<

FILE ENERGY
FILE LAST UPDATED: 6 OCT 2009 <20091006/UP>
FILE COVERS 1974 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
THE BASIC INDEX >>>

FILE TULSA

FILE COVERS 1965 TO 7 Oct 2009 (20091007/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE COMPENDEX

FILE LAST UPDATED: 5 OCT 2009 <20091005/UP>

FILE COVERS 1970 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE IN
THE BASIC INDEX (/BI), ABSTRACT (/AB), and TITLE (/TI) FIELDS >

<<< Reloaded and enhanced COMPENDEX file is now available
- see 'HELP RLOAD' for details <<<

FILE INSPEC

FILE LAST UPDATED: 5 OCT 2009 <20091005/UP>

FILE COVERS 1898 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
THE ABSTRACT (/AB), BASIC INDEX (/BI) AND TITLE (/TI) FIELDS >>

FILE WPIX

FILE LAST UPDATED: 1 OCT 2009 <20091001/UP>

MOST RECENT UPDATE: 200963 <200963/DW>

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>>> IPC, ECLA, US National Classifications and Japanese F-Terms
and FI-Terms have been updated with reclassifications to
mid-June 2009.

No update date (UP) has been created for the reclassified
documents, but they can be identified by
specific update codes (see HELP CLA for details)<<<

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http://www.stn-international.com/DWPIAnaVist2_0608.html

>>> HELP for European Patent Classifications see HELP ECLA, HELP ICO

=> d 177 1-6 bib abs hitstr hitind

L77 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:16051 HCAPLUS Full-text

DN 142:117646

TI Platinum-chromium-copper/nickel fuel cell catalyst

IN Chondroudis, Konstantinos; Gorner, Alexander; Devenney, Martin; He, Ting; Oyanagi, Hiroyuki; Giaquinta, Daniel M.; Urata, Kenta; Fukuda, Hiroichi; Fan, Qun; Strasser, Peter

PA Symyx Technologies, Inc., USA; Honda Giken Kogyo Kabushiki Kaisha

SO PCT Int. Appl., 70 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005001967	A1	20050106	WO 2004-US17333	20040603
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 20060251952	A1	20061109	US 2005-559637	20051202

PRAI US 2003-475559P P 20030603

WO 2004-US17333 W 20040603

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A fuel cell catalyst comprising platinum, chromium, and copper, nickel or a combination thereof is disclosed. In one or more embodiments, the concentration of platinum is less than 50 atomic%, and/or the concentration of chromium is less than 30 atomic%, and/or the concentration of copper, nickel, or a combination thereof is at least 35 atomic%.

IT 821770-74-5P 821770-75-6P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (platinum-chromium-copper/nickel fuel cell catalyst)
 RN 821770-74-5 HCAPLUS
 CN Platinum alloy, base, Pt 48,Cu 31,Cr 13,Ni 7.3 (9CI) (CA INDEX
 NAME)

Component	Component Percent	Component Registry Number
Pt	48	7440-06-4
Cu	31	7440-50-8
Cr	13	7440-47-3
Ni	7.3	7440-02-0

RN 821770-75-6 HCAPLUS
 CN Platinum alloy, base, Pt 49,Cu 24,Ni 15,Cr 13 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Pt	49	7440-06-4
Cu	24	7440-50-8
Ni	15	7440-02-0
Cr	13	7440-47-3

IC ICM H01M004-92
 ICS H01M004-96; B01J023-26; B01J023-42; B01J023-72; B01J023-755;
 B01J023-86; B01J023-89; H01M008-10
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 56, 67

IT 821770-72-3P 821770-73-4P ~~821770-74-5P~~
~~821770-75-6P~~ 821770-76-7P 821770-77-8P 821770-78-9P
 821770-79-0P 821770-80-3P 821770-81-4P 821770-82-5P
 821770-83-6P 821770-84-7P 821770-85-8P 821770-86-9P
 821770-87-0P 821770-88-1P 821770-89-2P 821770-90-5P
 821770-91-6P 821770-92-7P 821770-93-8P 821770-94-9P
 821770-95-0P 821770-96-1P 821770-97-2P 821770-98-3P
 821770-99-4P 821771-00-0P 821771-01-1P 821771-02-2P
 821771-03-3P 821771-04-4P 821771-05-5P 821771-06-6P
 821771-07-7P 821771-08-8P 821771-09-9P 821771-10-2P
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 821771-15-7P 821771-16-8P 821771-17-9P 821771-18-0P
 821771-19-1P 821771-20-4P 821771-21-5P 821771-22-6P
 821771-23-7P 821771-24-8P 821771-25-9P 821771-27-1P
 821771-28-2P 821771-29-3P 821771-30-6P 821771-31-7P

821771-32-8P 821771-33-9P 821771-34-0P 821771-35-1P
 821771-36-2P 821771-37-3P 821771-38-4P 821771-39-5P
 821771-40-8P 821771-41-9P 821771-42-0P 821771-43-1P
 821771-44-2P 821771-45-3P 821771-46-4P 821771-47-5P
 821771-48-6P 821771-49-7P 821771-50-0P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (platinum-chromium-copper/nickel fuel cell catalyst)

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1
 CITINGS)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L77 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN

AN 2002:833342 HCAPLUS Full-text

DN 137:332329

TI Magnetic recording medium with high coercivity for use with an
 inductive-MR composite head

IN Yoshikawa, Toshihiko; Sakawaki, Akira; Sakai, Hiroshi

PA Showa Denko K.K., Japan

SO U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No.
 493,037, abandoned.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 6815097	A1	20021031	US 2002-78659	200202 21
	US 6815097	B2	20041109		
	JP 2000222715	A	20000811	JP 1999-23256	199901 29
PRAI	JP 1999-23256	A	19990129		
	US 1999-121691P	P	19990225		
	US 2000-493037	B2	20000128		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The invention relates to a high-d. magnetic recording medium with
 high coercivity and minimal deterioration of overwrite and off-track
 properties. The medium is designed for use with a reproducing device
 employing a magnetoresistive effect, such as an inductive-MR
 composite head. The magnetic recording medium comprises a non-
 magnetic substrate, a non-magnetic underlayer, a magnetic recording
 layer, a soft magnetic layer, and a protective layer. The coercivity

is 2,500 Oe or more, and the thickness of the soft magnetic layer is between 5 and 50 Å.

IT 473710-90-6, Chromium 18, cobalt 67, copper 1, nickel 3,
platinum 8, tantalum 3 (atomic) 473710-92-8, Chromium
18, cobalt 65, copper 1, nickel 5, platinum 8, tantalum 3 (atomic)
473710-94-0, Chromium 18, cobalt 63, copper 1, nickel 7,
platinum 8, tantalum 3 (atomic)

RL: DEV (Device component use); TEM (Technical or engineered
material use); USES (Uses)

(magnetic recording material; magnetic recording medium with high
coercivity for use with an inductive-MR composite head)

RN 473710-90-6 HCAPLUS

CN Cobalt alloy, base, Co 55, Pt 22, Cr 13, Ta 7.5, Ni 2.4, Cu 0.9 (9CI)
(CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Co	55	7440-48-4
Pt	22	7440-06-4
Cr	13	7440-47-3
Ta	7.5	7440-25-7
Ni	2.4	7440-02-0
Cu	0.9	7440-50-8

RN 473710-92-8 HCAPLUS

CN Cobalt alloy, base, Co 53, Pt 22, Cr 13, Ta 7.5, Ni 4.1, Cu 0.9 (9CI)
(CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Co	53	7440-48-4
Pt	22	7440-06-4
Cr	13	7440-47-3
Ta	7.5	7440-25-7
Ni	4.1	7440-02-0
Cu	0.9	7440-50-8

RN 473710-94-0 HCAPLUS

CN Cobalt alloy, base, Co 51, Pt 22, Cr 13, Ta 7.5, Ni 5.7, Cu 0.9 (9CI)
(CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Co	51	7440-48-4

Pt	22	7440-06-4
Cr	13	7440-47-3
Ta	7.5	7440-25-7
Ni	5.7	7440-02-0
Cu	0.9	7440-50-8

IC ICM G11B005-64

INCL 428694000T

CC 77-8 (Magnetic Phenomena)

IT 146241-23-8, Chromium 18, cobalt 70, platinum 12 (atomic)
 161678-97-3, Chromium 13, cobalt 84, tantalum 3 (atomic)
 264260-04-0, Chromium 18, cobalt 71, platinum 8, tantalum 3 (atomic)
 375855-19-9, Boron 4, cobalt 64, chromium 24, platinum 8 (atomic)
 421766-23-6, Boron 4, cobalt 73, chromium 15, platinum 8 (atomic)
 473710-85-9, Chromium 18, cobalt 70, copper 1, platinum 8, tantalum
 3 (atomic) 473710-87-1, Chromium 20, cobalt 68, copper 2, platinum
 9, tantalum 1 (atomic) 473710-90-6, Chromium 18, cobalt
 67, copper 1, nickel 3, platinum 8, tantalum 3 (atomic)
 473710-92-8, Chromium 18, cobalt 65, copper 1, nickel 5,
 platinum 8, tantalum 3 (atomic) 473710-94-0, Chromium
 18, cobalt 63, copper 1, nickel 7, platinum 8, tantalum 3 (atomic)
 473710-96-2, Boron 8, chromium 18, cobalt 62, platinum 12 (atomic)
 473710-98-4, Boron 10, chromium 18, cobalt 60, platinum 12 (atomic)
 473710-99-5, Boron 12, chromium 18, cobalt 58, platinum 12 (atomic)
 473711-00-1, Boron 16, chromium 18, cobalt 54, platinum 12 (atomic)
 473711-02-3, Boron 22, chromium 18, cobalt 48, platinum 12 (atomic)
 473711-03-4, Boron 12, chromium 18, cobalt 60, platinum 10 (atomic)
 473711-04-5, Boron 12, chromium 18, cobalt 56, platinum 14 (atomic)
 473711-05-6, Boron 12, chromium 18, cobalt 54, platinum 16 (atomic)
 473711-07-8, Boron 12, chromium 18, cobalt 52, platinum 18 (atomic)
 473711-08-9, Boron 12, chromium 18, cobalt 48, platinum 22 (atomic)
 473711-09-0, Boron 12, chromium 18, cobalt 56, platinum 12,
 ruthenium 2 (atomic) 473711-10-3, Boron 12, chromium 18, cobalt
 54, platinum 12, ruthenium 4 (atomic) 473711-11-4, Boron 12,
 chromium 18, cobalt 52, platinum 12, ruthenium 6 (atomic)
 473711-12-5, Boron 12, chromium 18, cobalt 48, platinum 12,
 ruthenium 10 (atomic) 473711-13-6, Boron 12, chromium 18, cobalt
 36, platinum 12, ruthenium 22 (atomic) 473711-14-7, Boron 4,
 cobalt 61, chromium 27, platinum 8 (atomic) 473711-15-8, Boron 4,
 cobalt 63, chromium 25, platinum 8 (atomic) 473711-16-9, Boron 8,
 cobalt 64, chromium 14, platinum 14 (atomic) 473711-17-0, Boron 8,
 cobalt 66, chromium 12, platinum 14 (atomic) 473711-18-1, Boron 8,
 cobalt 65, chromium 13, platinum 14 (atomic)

RL: DEV (Device component use); TEM (Technical or engineered
 material use); USES (Uses)

(magnetic recording material; magnetic recording medium with high
 coercivity for use with an inductive-MR composite head)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L77 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN
AN 1988:226904 HCAPLUS Full-text
DN 108:226904
OREF 108:37153a,37156a
TI Platinum-based alloy with high abrasion resistance for jewellery and
dental materials
IN Morozumi, Fujio
PA Izima Kingin Kogyo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	
PI	JP 62270738	A	19871125	JP 1986-110592	19860516

PRAI JP 1986-110592 19860516
AB A Pt alloy with excellent abrasion resistance and toughness consists
of Pd 1.5-6.0, Cu 1.4-5.8, Ni 1.5-6.0, Co 0.5-1.0, Be 0.03-0.3, Cr
0.3-1.5%, and balance Pt. This alloy has excellent workability and
is useful for jewelry and artificial teeth. A Be 0.1, Cr 0.6, Co
1.0, Cu 2.9, Ni 3.0, and Pt 90.0 weight% alloy showed tensile
strength 55-56 kg/mm², elongation 26-27%, and hardness 200-220 HV.

IT 114814-94-7P 114814-95-8P
114814-96-9P 114814-97-0P

RL: PREP (Preparation)

(manufacture of abrasion-resistant, for dental materials and
jewelry)

RN 114814-94-7 HCAPLUS

CN Platinum alloy, base, Pt 79-95, Ni 1.5-6, Pd 1.5-6, Cu 1.4-5.8, Cr
0.3-1.5, Co 0.5-1, Be 0-0.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====
Pt	79 - 95	7440-06-4
Ni	1.5 - 6	7440-02-0
Pd	1.5 - 6	7440-05-3
Cu	1.4 - 5.8	7440-50-8
Cr	0.3 - 1.5	7440-47-3
Co	0.5 - 1	7440-48-4

Be 0 - 0.3 7440-41-7

RN 114814-95-8 HCAPLUS

CN Platinum alloy, base, Pt 89-95, Ni 1.5-4, Pd 1.5-4, Cu 1.4-4, Cr 0.3-1.5, Co 0.5-1, Be 0-0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Pt	89 - 95	7440-06-4
Ni	1.5 - 4	7440-02-0
Pd	1.5 - 4	7440-05-3
Cu	1.4 - 4	7440-50-8
Cr	0.3 - 1.5	7440-47-3
Co	0.5 - 1	7440-48-4
Be	0 - 0.2	7440-41-7

RN 114814-96-9 HCAPLUS

CN Platinum alloy, base, Pt 85, Pd 5, Cu 4.9, Ni 4, Co 1, Cr 0.8, Be 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Pt	85	7440-06-4
Pd	5	7440-05-3
Cu	4.9	7440-50-8
Ni	4	7440-02-0
Co	1	7440-48-4
Cr	0.8	7440-47-3
Be	0.1	7440-41-7

RN 114814-97-0 HCAPLUS

CN Platinum alloy, base, Pt 90, Ni 3, Pd 3, Cu 2.9, Co 1, Cr 0.6, Be 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Pt	90	7440-06-4
Ni	3	7440-02-0
Pd	3	7440-05-3
Cu	2.9	7440-50-8
Co	1	7440-48-4
Cr	0.6	7440-47-3
Be	0.1	7440-41-7

IC ICM C22C005-04
 CC 63-7 (Pharmaceuticals)
 Section cross-reference(s): 56
 IT 114814-94-7P 114814-95-8P
 114814-96-9P 114814-97-0P
 RL: PREP (Preparation)
 (manufacture of abrasion-resistant, for dental materials and jewelry)

L77 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN

AN 1985:564817 HCAPLUS Full-text

DN 103:164817

OREF 103:26407a,26410a

TI Gold alloy sliding electric contacts

PA Tanaka Noble Metal Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	
PI	JP 60084782	A	19850514	JP 1983-193655	19831017

PRAI JP 1983-193655 19831017

AB The sliding elec. contact point consists of a brush made from 0.5-10 weight% Cr, Mg, Zr, and/or P and balance Au-(3-7) Pt-(8-12) Ag-(12-16) Cu-(0.1-2) Ni alloy and a commutator or a slip ring made from Ag(3-12) Cu alloy or Ag-(3-12) Cu-(≤ 5) Cd alloy. The apparatus has low contact resistance and shows little abrasion loss. Thus, a brush made from 5 weight% Cr and balance Au70-Pt5-Ag10-Cu14-Ni1 alloy and a slip ring made from Ag92.5-Cu7.5 alloy [37350-65-5] were prepared as a sliding contact point apparatus. The apparatus was tested 7 h under conditions of 0.6 A, 12 V, 1000 rpm, peripheral velocity 130-120 m/min, and contact pressure 100 g to show abrasion losses of the brush 6.0 mg and the slip ring 105 mg and 12-99 m Ω contact resistance, compared to 10.6 mg, 288 mg, and 14-290 m Ω resp., when using the Au alloy without Cr as the brush and Ag 89.0-Cd 11.0 alloy as the slip ring.

IT 91886-46-3

RL: DEV (Device component use); USES (Uses)
 (for elec. brushes)

RN 91886-46-3 HCAPLUS

CN Gold alloy, base, Au 67,Cu 13,Ag 9.5,Cr 4.8,Pt 4.8,Ni 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Au	67	7440-57-5
Cu	13	7440-50-8
Ag	9.5	7440-22-4
Cr	4.8	7440-47-3
Pt	4.8	7440-06-4
Ni	1	7440-02-0

IC ICM H01R039-20
ICA C22C005-02
CC 56-3 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76
IT ~~91886-46-3~~ 98699-50-4 98699-51-5 98699-52-6
RL: DEV (Device component use); USES (Uses)
(for elec. brushes)

L77 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN

AN 1984:515407 HCAPLUS Full-text

DN 101:115407

OREF 101:17565a

TI Sliding electric contact alloy

PA Tanaka Noble Metal Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 2 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	

PI	JP 59100243	A	19840609	JP 1982-208267	198211 27
	JP 02052692	B	19901114		
PRAI	JP 1982-208267		19821127		
AB	To the conventional alloy containing Au 69-71, Pt 4-6, Ag 9-10, Cu 13-15, and Ni 0.5-1.5 there is added ≥ 1 of Cr, Mg, and P 0.5-15%. A 0.7 + 8 mm wire was tested at 0.6 A, 12 V, 1000 rpm, circular velocity 120-130 m/min, and contact force 100 g for 7 h. The wear was 2.1-3.2 mg and contact resistivity 12-65 m, compared to 7.5 and 10-330 with the original. Thus, 5% Cr was added to Au 70, Pt 5, Ag 10, Cu 14, Ni 1% alloy.				
IT	91886-46-3				
	RL: TEM (Technical or engineered material use); USES (Uses)				

(for elec. contacts, with sliding wire resistance)

RN 91886-46-3 HCAPLUS

CN Gold alloy, base, Au 67,Cu 13,Ag 9.5,Cr 4.8,Pt 4.8,Ni 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====
Au	67	7440-57-5
Cu	13	7440-50-8
Ag	9.5	7440-22-4
Cr	4.8	7440-47-3
Pt	4.8	7440-06-4
Ni	1	7440-02-0

IC C22C005-02

ICA H01B001-02; H01H001-02

CC 56-3 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76IT ~~91886-46-3~~RL: TEM (Technical or engineered material use); USES (Uses)
(for elec. contacts, with sliding wire resistance)

L77 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2009 ACS on STN

AN 1936:25942 HCAPLUS Full-text

DN 30:25942

OREF 30:3398d-e

TI Noble metal alloys

IN Zschelletzschky, Alfred

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	

PI	DE 626084		19360220	DE 1931-Z20344	193109 20

AB Alloys containing Pt 0.01-5, Au 33.3-75, Ag 1-20, Cu 15-50, Ni 5-25
and Cr 0.001-22% are used in dentistry or for making articles
required to resist chemical influences and mech. strain, e. g.,
surgical instruments.IT ~~705289-58-3P~~, Nickel alloys, chromium-Cu-Au-Pt-Ag-
RL: PREP (Preparation)
(preparation of)

RN 705289-58-3 HCAPLUS

CN Silver alloys, chromium-Cu-Au-Ni-Pt- (3CI) (CA INDEX NAME)

Component	Component Registry Number
-----------	------------------------------

=====+=====

Ag	7440-22-4
Au	7440-57-5
Cr	7440-47-3
Cu	7440-50-8
Ni	7440-02-0
Pt	7440-06-4

INCL 40B.4

CC 9 (Metallurgy and Metallography)

IT ~~705289-58-3P~~, Nickel alloys, chromium-Cu-Au-Pt-Ag-

RL: PREP (Preparation)
(preparation of)

=> d 175 1-6 bib abs ind

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, HCAPLUS' - CONTINUE? (Y)/N:y

L75 ANSWER 1 OF 9 PASCAL COPYRIGHT 2009 INIST-CNRS. ALL RIGHTS
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AN 2009-0282291 PASCAL Full-text

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TIEN Improvement of methanol electro-oxidation activity of PtRu/C and
PtNiCr/C **catalysts** by anodic treatment

AU KUJEON Min; MCGINN Paul J.

CS Department of Chemical and Biomolecular Eng., University of Notre
Dame, 178 Fitzpatrick, Notre Dame, IN 46556, United States

SO Journal of power sources, (2009), 188(2), 427-432, 36 refs.
ISSN: 0378-7753 CODEN: JPSODZ

DT Journal

BL Analytic

CY Switzerland

LA English

AV INIST-17113, 354000185947550120

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AB The effect of an anodic treatment on the methanol oxidation activity
of PtRu/C (50:50 atomic%) and PtNiCr/C (~~Pt~~: ~~Ni~~:~~Cr~~=28:36:36 atomic%)
catalysts was investigated for various potential limits of
0.9, 1.1, 1.3 and 1.4 V(vs. reference hydrogen electrode, RHE).
NaBH.sub.4 reduced **catalysts** were further reduced at 900 C for 5 min

in an argon balanced hydrogen flow stream. Improved alloying was obtained by the hydrogen reduction procedure as confirmed by X-ray diffraction results. In the PtRu/C catalyst, a decrease of irreversible Ru (hydrous) oxide formation was observed when the anodic treatment was performed at 1.1 V (vs. RHE) or higher potentials. In chronoamperometry testing performed for 60 min at 0.6V (vs. RHE), the highest activity of the PtRu/C catalyst was observed when anodic treatment was performed at 1.3 V (vs. RHE). The current density increased from 1.71 to 4.06A

g.sub.c.sub.a.sub.t.sub...sup.-.sup.1 after the anodic treatment. In the PtNiCr/C catalyst, dissolution of Ni and Cr was observed when potentials ≥ 1.3 v (vs. RHE) were applied during the anodic treatment. In MOR activity tests, the current density of the PtNiCr/C catalyst dramatically increased by more than 13.5 times (from 0.182 to 2.47Ag.sub.c.sub.a.sub.t.sub...sup.-.sup.1) when an anodic treatment was performed at 1.4V. On an Ag.sub.n.sub.o.sub.b.sub.l.sub.e.sub.

.sub.m.sub.e.sub.r.sub.a.sub.l.sub.-.sup.1 basis, the current density of PtNiCr-1.4V is slightly higher than the best anodically treated PtRu-1.3V catalyst, suggesting the PtNiCr catalyst is a promising candidate to replace the PtRu catalysts.

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 CC 001D06D03E; Applied sciences; Energy; Thermal use of fuels
 230; Energy
 CCFR 001D06D03E; Sciences appliquees; Energie; Utilisation thermique des
 combustibles
 230; Energie
 CCES 001D06D03E; Ciencias aplicadas; Energia; Utilizacion termica de los
 combustibles
 230; Energia
 CT Methanol; Ruthenium; Catalyst; Platinum; Nickel;
 Chromium; Reference electrode; Hydrogen; X ray diffractometry;
 Chronoamperometry; Current density; Oxidation; Alcohol fuel
 cells; Cyclic voltammetry
 CTFR Methanol; Ruthenium; Catalyseur; Platine; Nickel; Chrome;
 Electrode reference; Hydrogene; Diffractometrie RX;
 Chronoamperometrie; Densite courant; Oxydation; Pile combustible
 alcool; Voltammetrie cyclique
 CTES Metanol; Rutenio; Catalizador; Platino; Niquel; Cromo;
 Electrodo referencia; Hidrogeno; Diffractometria RX;
 Cronoamperimetria; Densidad corriente; Oxidacion; Voltametria
 ciclica
 L75 ANSWER 2 OF 9 PASCAL COPYRIGHT 2009 INIST-CNRS. ALL RIGHTS
 RESERVED. on STN DUPLICATE 3
 AN 2008-0522086 PASCAL Full-text
 CP Copyright .COPYRGT. 2008 INIST-CNRS. All rights reserved.

TIEN Combinatorial screening of ternary **Pt-Ni-Cr catalysts** for methanol electro-oxidation

AU COOPER James S.; JEON Min Ku; MCGINN Paul J.

CS Department of Chemical and Biomolecular Engineering, University of Notre Dame, Notre Dame, IN 46556, United States

SO Electrochemistry communications, (2008), 10(10), 1545-1547, 23 refs.
ISSN: 1388-2481

DT Journal

BL Analytic

CY Netherlands

LA English

AV INIST-26863, 354000185846990340

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AB Methanol electro-oxidation activity of ternary **Pt- Ni-Cr** system was studied by using a combinatorial screening method. A **Pt-Ni-Cr** thin-film library was prepared by sputtering and quickly characterized by a multichannel multielectrode analyzer. Among the 63 different composition thin-film **catalysts**, Pt.sub.2.sub.8Ni.sub.3.sub.6Cr.sub.3.sub.6 showed the highest methanol electro-oxidation activity and good stability. This new composition was also studied in its powder form by synthesizing and characterizing Pt.sub.2.sub.8Ni.sub.3.sub.6Cr.sub.3.sub.6/C **catalyst**. In chronoamperometry testing, the Pt.sub.2.sub.8Ni.sub.3.sub.6Cr.sub.3.sub.6/C **catalyst** exhibited "decay-free" behavior during 600 s operation by keeping its current density up to 97.1% of its peak current density, while the current densities of Pt/C and Pt.sub.5.sub.0Ru.sub.5.sub.0/C **catalysts** decreased to 14.0% and 60.3% of their peak current densities, respectively. At 600 s operation, current density of the Pt.sub.2.sub.8Ni.sub.3.sub.6Cr.sub.3.sub.6/C **catalyst** was 23.8 Ag.sub.n.sub.o.sub.b.sub.1.sub.e metal.sup.-.sup.1, while that of those of the Pt/C and Pt.sub.5.sub.0Ru.sub.5.sub.0/C **catalysts** were 2.74 and 18.8 A g.sub.n.sub.o.sub.b.sub.1.sub.e metal.sup.-.sup.1, respectively.

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CC 001D06D03E; Applied sciences; Energy; Thermal use of fuels
230; Energy

CCFR 001D06D03E; Sciences appliquees; Energie; Utilisation thermique des combustibles
230; Energie

CCES 001D06D03E; Ciencias aplicadas; Energia; Utilizacion termica de los combustibles
230; Energia

CT High throughput screening; Property composition relationship; Methanol; Oxidation; Combinatorial chemistry; Alcohol **fuel cells**; **Electrocatalysis**; **Catalyst**

activity; Platinum alloy; Nickel alloy; Chromium alloy; Ternary alloy; Supported catalyst; Carbon; X ray diffraction; Primary alcohol; Electrochemical reaction

CTFR Criblage haut debit; Relation composition propriete; Methanol; Oxydation; Chimie combinatoire; Pile combustible alcool; Electrocatalyse; Activite catalytique; Platine alliage; Nickel alliage; Chrome alliage; Alliage ternaire; Catalyseur sur support; Carbone; Diffraction RX; Alcool primaire; Reaction electrochimique

CTES Cribado alta productividad; Relacion composicion propiedad; Metanol; Oxidacion; Quimica combinatoria; Electrocatalisis ; Actividad catalitica; Platino aleacion; Niquel aleacion; Cromo aleacion; Aleacion ternaria; Catalizador sobre soporte; Carbono; Difraccion RX; Alcohol primario; Reaccion electroquimica

L75 ANSWER 3 OF 9 PASCAL COPYRIGHT 2009 INIST-CNRS. ALL RIGHTS RESERVED. on STN

AN 1994-0025496 PASCAL Full-text

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TIEN Enhanced electrocatalysis of oxygen reduction on platinum alloys in proton exchange membrane fuel cells

AU SANJEEV MUKERJEE; SUPRAMANIAM SRINIVASAN

CS Texas A&M univ. system, cent. electrochemical systems hydrogen res., Texas eng. exp. stn., College Station TX 77843-3402, United States

SO Journal of electroanalytical chemistry : (1992), (1993), 357(1-2), 201-224, 28 refs.

DT Journal

BL Analytic

CY Switzerland

LA English

AV INIST-1150, 354000048057770080

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AB Enhanced electrocatalysis of the oxygen reduction reaction (ORR) on carbon-supported binary and ternary alloys of Pt in phosphoric acid fuel cells has been reported previously. This investigation focuses on the electrocatalysis of the ORR on some binary alloys of Pt (Pt+Ni, Pt+Cr and Pt+Co) at interfaces with proton exchange membranes (Dow perfluorinated sulfonic acids). Comparison of the results of these studies with those on carbon-supported Pt electrocatalysts (electrodes containing same Pt loading of 0.3 mg/cm.sup.2) revealed enhanced activities, lower activation energies and different reaction orders for all the alloys

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CC 001C01H05; Chemistry; General chemistry, Physical chemistry;

Electrochemistry

CCFR 001C01H05; Chimie; Chimie generale, Chimie physique; Electrochimie
 CCES 001C01H05; Quimica; Quimica general, Fisicoquimica; Electroquimica
 CT Experimental study; Chemical reduction; Electrochemical reaction;
Electrocatalysis; Oxygen; Electrodes; Chromium Alloys;
 Nickel Alloys; Cobalt Alloys; Modified material; Carbon;
Fuel cell; Ion exchange membrane; Proton
 transfer; Kinetics; Temperature effect; Pressure effect; Platinum
 base alloy
 CTFR Etude experimentale; Reduction chimique; Reaction electrochimique;
Electrocatalyse; Oxygene; Electrode; Chrome Alliage; Nickel
 Alliage; Cobalt Alliage; Matériau modifié; Carbone; Pile
 combustible; Membrane échangeuse ion; Transfert proton; Cinétique;
 Effet température; Effet pression; Nafion 1100; Alliage PtCr; Pt
 Cr; Alliage PtNi; Pt Ni; Alliage PtCo; Pt Co; Alliage base platine
 CTES Estudio experimental; Reducción química; Reacción electroquímica;
Electrocatalisis; Oxígeno; Electrodo; Cromo Aleación;
 Níquel Aleación; Cobalto Aleación; Material modificado; Carbono;
 Pila combustion; Membrana cambiadora iónica; Transferencia proton;
 Cinética; Efecto temperatura; Efecto presión
 BT Transition metal
 BTFR Metal transition
 BTDE Uebergangsmetalle
 BTES Metal transición

L75 ANSWER 4 OF 9 ENERGY COPYRIGHT 2009 USDOE/IEA-ETDE on STN

AN 1989(8):46867 ENERGY Full-text

TI Catalyst for fuel cell electrode.

AU Tsurumi, Kazunori [Japan]

CS Assignee(s): Tanaka Kikinzoku Kogyo Co., Ltd., Tokyo, (Japan)

PI JP 63-190253 5 Aug 1988

3 p.

AI 30 Jan 1987

DT Patent

CY Japan

LA Japanese

AB Heretofore, the material which is made by kneading the catalyst
 consisting of a carbon powder support carrying platinum in a state
 of fine particles together with a pressure sensitive adhesive has
 been used as the reaction layer of electrodes for fuel cell.
 However, in case of the cathode of the fuel cell which uses
 phosphoric acid as its electrolyte in particular, there has been
 defects that platinum in the state of very fine particles gradually
 flocculates and grain growth occurs causing the decrease of the
 surface area of platinum and the decline of electromotive force of
 the fuel cell. In this invention, the catalyst is obtained whose
 surface area does not decrease due to grain growth even after using

it for a long period by using a platinum-nickel-chrome alloy instead of platinum alone as an active metallic particle of the catalyst for fuel cell electrode. Since nickel and chrome work like cocatalyst, there is also the effect of enhancing the initial activity as the oxygen reduction catalyst of the above alloy.

IC H01M004-90
 CC *300503
 CT *CATALYSTS: *CARBON; *FUEL CELLS: *CATALYSTS; *FUEL CELLS:
 *ELECTRODES; *CATALYSTS: *POWDERS; *CATALYSTS: *SUPPORTS; CHROMIUM
 BT ALLOYS; NICKEL; PLATINUM
 ALLOYS; DIRECT ENERGY CONVERTERS; ELECTROCHEMICAL CELLS; ELEMENTS;
 MECHANICAL STRUCTURES; METALS; NONMETALS; PLATINUM METALS;
 TRANSITION ELEMENTS

L75 ANSWER 5 OF 9 COMPENDEX COPYRIGHT 2009 EEI on STNDUPLICATE 1
 AN 2009-3612292038 COMPENDEX Full-text
 TI Composition dependence of ternary **Pt-Ni-**
Cr catalyst activity for the methanol
 electro-oxidation reaction
 AU Jeon Min Ku; McGinn Paul J.
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 SO Journal of Power Sources (1 Dec 2009) Volume 194, Number 2, pp.
 737-745, 44 refs.
 CODEN: JPSODZ ISSN: 0378-7753
 DOI: 10.1016/j.jpowsour.2009.06.019
 Published by: Elsevier, P.O. Box 211, Amsterdam, 1000 AE (NL)
 PUI S0378775309010325
 CY Netherlands
 DT Journal; Article
 LA English
 SL English
 ED Entered STN: 15 Sep 2009 Too much Cr;
 Last updated on STN: 15 Sep 2009 not enough Ni
 AN 2009-3612292038 COMPENDEX Full-text
 AB Various compositions of binary and ternary **Pt-Ni -Cr** alloys were
 investigated as **catalysts** for the methanol electro-oxidation
 reaction (MOR). Among the binary (Pt28Ni72/C and Pt28Cr72/C) and
 ternary **Pt-Ni- Cr catalysts** (Pt28Ni36Cr36/C, Pt22Ni39Cr39/C,
 Pt33Ni31Cr36/C, and Pt33Ni36Cr31/C) examined, the Pt28Ni36Cr36/C
 composition exhibited the highest MOR mass activity (4.42 A gcat.-
 1) in the as-prepared version, which was higher than the 3.58 A
 gcat.-1 value of the PtRu/C **catalyst** after 60 min of
 chronoamperometry testing. The order of mass activity for the MOR
 was Pt28Ni36Cr36/C > Pt33Ni36Cr31/C > Pt22Ni39Cr39/C >

Pt33Ni31Cr36/C > Pt28Cr72/C > Pt28Ni72/C, which was slightly changed to Pt28Ni36Cr36/C > Pt22Ni39Cr39/C > Pt33Ni36Cr31/C > Pt33Ni31Cr36/C > Pt28Cr72/C > Pt28Ni72/C after a conditioning process. The effect of anodic conditioning was also studied. A combination of X-ray diffraction, cyclic voltammetry, and chronoamperometry experiments revealed that the conditioning process caused dissolution and an oxidation state change of metallic Ni and Cr2O3 in the binary catalysts. The higher MOR mass activities of the ternary catalysts compared to the binary ones is attributed to co-alloying of Ni and Cr, leading to exposure of more Pt on the catalyst surface without reducing specific activities of the catalysts. The results of this study also correlate well with a prior ranking of catalytic activity of the same compositions in the form of thin film catalysts that we processed and evaluated by a high-throughput combinatorial approach [J.S. Cooper, M.K. Jeon, P.J. McGinn, Electrochem. Commun. 10 (2008) 1545-1547]. .COPYRGHT. 2009 Elsevier B.V. All rights reserved.

AN 2009-3612292038 COMPENDEX Full-text
 CC 801 Chemistry; 801.2 Biochemistry; 801.4.1 Electrochemistry; 802.2 Chemical Reactions; 802.3 Chemical Operations; 803 Chemical Agents and Basic Industrial Chemicals; 804 Chemical Products Generally; 804.1 Organic Compounds; 942.2 Electric Variables Measurements; 702.2 Fuel Cells; 461 Bioengineering; 461.2 Biological Materials; 461.6 Medicine; 523 Liquid Fuels; 531.1 Metallurgy; 531.2 Metallography; 543.1 Chromium and Alloys; 547.1 Precious Metals; 548.1 Nickel
 CT *Platinum alloys; Binary alloys; Bioassay; Biochips; Catalysis; Catalyst activity; Cell membranes; Chemical analysis; Chromium; Chromium alloys; Chronoamperometry; Cyclic voltammetry; Dissolution; Electrocatalysts; Fuel cells; Methanol; Methanol fuels; Nickel; Oxidation; Platinum
 ST Binary catalysts; Catalyst surfaces; Catalytic activity; Combinatorial approach; Combinatorial chemistry; Composition dependence; Conditioning process; High-throughput; Mass activity; Methanol electro-oxidation; Ni-Cr alloys; Oxidation state; PtRu/C catalysts; Specific activity; Ternary catalysts; Thin film catalysts ; X- Ray diffraction
 ET Cr*Ni*Pt; Cr sy 3; sy 3; Ni sy 3; Pt sy 3; Pt-Ni-Cr; Cr*Ni*Pt; Cr sy 3; sy 3; Ni sy 3; Pt sy 3; Pt-Ni-Cr; C*Ni*Pt; C sy 3; Pt28Ni72/C; Pt cp; cp; Ni cp; C cp; C*Cr*Pt; Pt28Cr72/C; Cr cp; C*Cr*Ni*Pt; C sy 4; sy 4; Cr sy 4; Ni sy 4; Pt sy 4; Pt28Ni36Cr36/C; Pt22Ni39Cr39/C; Pt33Ni31Cr36/C; Pt33Ni36Cr31/C; Pt*Ru; Pt sy 2; sy 2; Ru sy 2; PtRu; Ru cp; Ni; Cr*O; Cr2O; O cp; Cr; Pt

L75 ANSWER 6 OF 9 INSPEC (C) 2009 IET on STN
 AN 2008:10275633 INSPEC Full-text
 TI Combinatorial screening of ternary **Pt-Ni-Cr catalysts** for methanol electro-oxidation
 AU Cooper, J.S. (Dept. of Chem. & Biomol. Eng., Univ. of Notre Dame, Notre Dame, IN, USA), Min Ku Jeon (Dept. of Chem. & Biomol. Eng., Univ. of Notre Dame, Notre Dame, IN, USA), McGinn, P.J. (Dept. of Chem. & Biomol. Eng., Univ. of Notre Dame, Notre Dame, IN, USA)
 SO Electrochemistry Communications (Oct. 2008), vol.10, no.10, p. 1545-7, 23 refs.
 CODEN: ECCMF9, ISSN: 1388-2481
 Doc.No.: S1388-2481(08)00345-7
 Published by: Elsevier Science S.A., Switzerland
 DT Journal
 TC Experimental
 CY Switzerland
 LA English
 AN 2008:10275633 INSPEC Full-text
 AB Methanol electro-oxidation activity of ternary **Pt- Ni-Cr** system was studied by using a combinatorial screening method. A **Pt-Ni-Cr** thin-film library was prepared by sputtering and quickly characterized by a multichannel multielectrode analyzer. Among the 63 different composition thin-film **catalysts**, Pt28Ni36Cr36 showed the highest methanol electro-oxidation activity and good stability. This new composition was also studied in its powder form by synthesizing and
 Too much Cr characterizing Pt28Ni36Cr36/C **catalyst**. In chronoamperometry
 not enough testing, the Pt28Ni36Cr36/C **catalyst** exhibited "decay-free" behavior
 Ni during 600 s operation by keeping its current density up to 97.1% of its peak current density, while the current densities of Pt/C and Pt50Ru50/C **catalysts** decreased to 14.0% and 60.3% of their peak current densities, respectively. At 600 s operation, current density of the Pt28Ni36Cr36/C **catalyst** was 23.8 Agnoblemetal-1, while that of those of the Pt/C and Pt50Ru50/C **catalysts** were 2.74 and 18.8 Agnoblemetal-1, respectively.[All rights reserved Elsevier].
 AN 2008:10275633 INSPEC Full-text
 CC A8245 Electrochemistry and electrophoresis; A6855 Thin film growth, structure, and epitaxy; A8115C Deposition by sputtering; A8160 Corrosion, oxidation, etching, and other surface treatments; A8630G Fuel cells; A8265J Heterogeneous catalysis at surfaces and other surface reactions; B8410G Fuel cells
 CT carbon; **catalysts**; chromium alloys; current density; direct methanol **fuel cells**; electrochemical electrodes; electrochemistry; metallic thin films; nickel alloys; organic compounds; oxidation; platinum alloys; sputter deposition
 ST combinatorial screening method; **catalysts**; methanol electrooxidation activity; sputtering method; multichannel multielectrode analyzer; thin film **catalysts**; powder

form; chronoamperometry testing; current density; direct methanol
fuel cell; DMFC; PtNiCrC

CHI PtNiCrC ss, Cr ss, Ni ss, Pt ss, C ss
ET C*Cr*Ni; C sy 3; sy 3; Cr sy 3; Ni sy 3; NiCrC; Ni cp; cp; Cr cp; C
cp; Cr; Ni; Pt; Cr*Ni*Pt; Pt sy 3; Pt-Ni-Cr; Pt28Ni36Cr36; Pt cp;
C*Cr*Ni*Pt; C sy 4; sy 4; Cr sy 4; Ni sy 4; Pt sy 4;
Pt28Ni36Cr36/C; C*Pt*Ru; Ru sy 3; Pt50Ru50/C; Ru cp

=> d 175 7-8 full

YOU HAVE REQUESTED DATA FROM FILE 'PASCAL, ENERGY, COMPENDEX, INSPEC, WPIX
, HCAPLUS' - CONTINUE? (Y)/N:y

L75 ANSWER 7 OF 9 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
DUPLICATE 4
AN 2006-489706 [50] WPIX Full-text
TI **Catalyst** for **fuel cell** comprising
platinum alloy having oxygen reduction potential of platinum of 450
millivolt or more, its preparation method, and **fuel**
cell system containing the **catalyst**
DC X16
IN CHO K W
PA (SMSU-C) SAMSUNG SDI CO LTD
CYC 1
PI KR 2005103647 A 20051101 (200650)* KO [0]
KR 551034 B1 20060213 (200703) KO
ADT KR 2005103647 A KR 2004-28908 20040427; KR 551034 B1 KR 2004-28908
20040427
FDT KR 551034 B1 Previous Publ KR 2005103647 A
PRAI KR 2004-28908 20040427
IC ICM H01M004-92
IPCI H01M0004-90 [I,C]; H01M0004-92 [I,A]
AB KR 2005103647 A UPAB: 20060804

NOVELTY - Provided are a **catalyst** for a **fuel cell** which is reduced
in manufacturing cost, has a rapid oxygen reduction velocity, is
excellent in reactivity and improves the performance of the total
fuel cell system, its preparation method, and a **fuel cell** system
employing the **catalyst**.

DETAILED DESCRIPTION - The **catalyst** has an oxygen reduction
potential of platinum of 450 mV or more. Preferably the **catalyst**
comprises at least one selected from the group consisting of a
platinum-iron alloy and a **platinum-chromium-nickel** alloy; and the
catalyst except a carrier has an average particle size of 30-150

Angstrom. Preferably the content of iron or chromium and nickel in the alloy is 0.3-1.2 mol to 1 mol of platinum.(C) KIPO 2006Image 0/0

FS EPI
MC EPI: X16-E06A1

L75 ANSWER 8 OF 9 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
DUPLICATE 5

AN 1988-261141 [37] WPIX Full-text

DNC C1988-116464 [21]

DNN N1988-198091 [21]

TI **Fuel cell** electrode **catalyst** -
contains alloy of platinum nickel and chromium

DC L03; X16

IN TSURUMI K

PA (TANI-C) TANAKA KIKINZOKU KOGYO KK

CYC 1

PI JP 63190253 A 19880805 (198837)* JA 3[0]

ADT JP 63190253 A JP 1987-20091 19870130

PRAI JP 1987-20091 19870130

IC IC H01M004-90

EPC H01M0004-90; H01M0004-92

ICO T01M0004:86U2; T01M0004:92S2

AB JP 63190253 A UPAB: 20050429

The **catalyst** contains an alloy of Pt, Ni, and Cr. The **catalyst** is pref. composed of electroconductive carbon on which the alloy is carried.

ADVANTAGE - Particle growth of the active metal particles in the **catalyst** are suppressed in use for long time. Constant electro-motive force is obtd. In an example 90 g of electroconductive carbon black heat-treated at 2700 deg.C (specific surface area = 166 m²/g, d(002) = 6,748 angstroms Lc(002) = 221 angstroms was added to 4 l H₂PtCl₆ solution containing 10 g platinum with stirring. 4 l 1.25 mol HCOONa aqueous solution was added and vigorously stirred for 3 hrs. Residue was filtrated, washed, and dried at 60 deg.C, then in N₂ flow at 120 deg.C, then pulverised to obtain 97 g platinum carbon. 10 g of this platinum carbon was dispersed into 400 ml water, then pH was adjusted to 8 with NH₄OH aqueous solution 100 ml of aqueous solution, containing 3 g Ni as Ni nitrate and 1 g Cr as Cr nitrate, was added to the mixture adjusting its pH value to 5 with diluted HNO₃. The mixture was vigorously stirred for 20 mins. then slurry was filtrated and dried at 60 deg.C. The cake like prod. was pulverised and heat-treated at 920 deg.C for 3 hrs. in N₂ gas flow containing 5 volume% H₂.

FS CPI; EPI
MC CPI: L03-E04B
EPI: X16-E06

=> d 175 9 bib abs hitstr hitind

YOU HAVE REQUESTED DATA FROM FILE 'PASCAL, ENERGY, COMPENDEX, INSPEC, WPIX
, HCAPLUS' - CONTINUE? (Y)/N:y

L75 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
 AN 2001:66867 HCAPLUS Full-text
 DN 134:240034
 TI Electrode performance of Pt-Cr-Ni
 alloy catalysts for oxygen electrode in polymer
 electrolyte fuel cell
 AU Shim, Joongpyo; Lee, Hong-Ki
 CS Environmental Energy Tech. Div., Lawrence Berkeley National Lab.,
 California, 94720, USA
 SO Han'guk Chaelyo Hakhoechi (2000), 10(12), 831-837
 CODEN: HCHAEU; ISSN: 1225-0562
 PB Materials Research Society of Korea
 DT Journal
 LA Korean
 AB To improve the catalytic activity of platinum on polymer electrolyte
 fuel cell(PEFC), platinum was alloyed with cobalt and nickel at
 various temperature By XRD, it was observed the crystal structure of
 alloy catalysts were the ordered face centered cubic(f.c.c) due to
 the superlattice line at 33°. As heat-treatment temperature was
 increased, the particle size of alloys also were increased and the
 crystalline lattice parameters were decreased. According to the
 results from mass activity, specific activity and Tafel slope
 measured by cell performance test and cyclic voltammogram, the
 catalyst activities of alloys are higher than that pure platinum.
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 56, 67, 72
 ST conjugated polymer methanofullerene solar cell morphol;
 platinum chromium nickel alloy
 catalyst electrode
 IT Crystal structure
 Fuel cell cathodes
 (electrode performance of Pt-Cr-Ni
 alloy catalysts for oxygen electrode in polymer
 electrolyte fuel cell)
 IT Fuel cells
 (polymer electrolyte; electrode performance of Pt-
 Cr-Ni alloy catalysts for oxygen
 electrode in polymer electrolyte fuel cell)
 IT Platinum alloy, base

RL: DEV (Device component use); USES (Uses)
(electrode performance of Pt-Cr-Ni
alloy catalysts for oxygen electrode in polymer
electrolyte fuel cell)

IT 64136-44-3 77950-55-1, Nafion 115

RL: DEV (Device component use); USES (Uses)
(electrode performance of Pt-Cr-Ni
alloy catalysts for oxygen electrode in polymer
electrolyte fuel cell)

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